

November 29, 2016

Tom Moe
USS Corporation
P.O. Box 417
8771 Park Ridge Dr
Mountain Iron, MN 55768

RE: Project: TB Acute Tox. Testing 2nd rd
Pace Project No.: 1279305

Dear Tom Moe:

Enclosed are the analytical results for sample(s) received by the laboratory on November 21, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Melisa M Woods
melisa.woods@pacelabs.com
Project Manager

Enclosures

cc: Cory Hertling
Terri Sabetti, NTS



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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CERTIFICATIONS

Project: TB Acute Tox. Testing 2nd rd

Pace Project No.: 1279305

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

Alaska Certification UST-107

Alaska Certification UST-107

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification # : 998027470

WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842015-1

Oklahoma Department of Environmental Quality

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SAMPLE SUMMARY

Project: TB Acute Tox. Testing 2nd rd

Pace Project No.: 1279305

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1279305001	WS006/WS007	Water	11/21/16 10:25	11/21/16 14:47
1279305002	SW002	Water	11/21/16 09:00	11/21/16 14:47

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SAMPLE ANALYTE COUNT

Project: TB Acute Tox. Testing 2nd rd

Pace Project No.: 1279305

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1279305001	WS006/WS007	ASTM D2327	DMB	1	PASI-V
1279305002	SW002	ASTM D2327	DMB	1	PASI-V

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ANALYTICAL RESULTS

Project: TB Acute Tox. Testing 2nd rd

Pace Project No.: 1279305

Sample: WS006/WS007		Lab ID: 1279305001		Collected: 11/21/16 10:25		Received: 11/21/16 14:47		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
ASTM D2327 Nitrogen, Amine									
Analytical Method: ASTM D2327				Preparation Method: ASTM D2327					
Nitrogen, Amine	ND	mg/L	0.25	0.023	1	11/22/16 08:45	11/22/16 08:54		M1

Sample: SW002		Lab ID: 1279305002		Collected: 11/21/16 09:00		Received: 11/21/16 14:47		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
ASTM D2327 Nitrogen, Amine									
Analytical Method: ASTM D2327				Preparation Method: ASTM D2327					
Nitrogen, Amine	ND	mg/L	0.25	0.023	1	11/22/16 08:45	11/22/16 08:56		

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QUALITY CONTROL DATA

Project: TB Acute Tox. Testing 2nd rd

Pace Project No.: 1279305

QC Batch: 100633

Analysis Method: ASTM D2327

QC Batch Method: ASTM D2327

Analysis Description: ASTM D2327 Nitrogen, Amine

Associated Lab Samples: 1279305001, 1279305002

METHOD BLANK: 399772

Matrix: Water

Associated Lab Samples: 1279305001, 1279305002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Amine	mg/L	ND	0.25	0.023	11/22/16 08:58	

LABORATORY CONTROL SAMPLE: 399773

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Amine	mg/L	.5	0.52	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 399774

399775

Parameter	Units	1279305001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Amine	mg/L	ND	.5	.5	0.44	0.43	84	82	90-110	2	10	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: TB Acute Tox. Testing 2nd rd
Pace Project No.: 1279305

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-V Pace Analytical Services - Virginia

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: TB Acute Tox. Testing 2nd rd

Pace Project No.: 1279305

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1279305001	WS006/WS007	ASTM D2327	100633	ASTM D2327	100923
1279305002	SW002	ASTM D2327	100633	ASTM D2327	100923

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
315 Chestnut Street
P.O. Box 1212
Virginia, MN 55792
218-742-1042

MO#: 12793305

PM: MM
CLIENT: USS CORP
Due Date: 12/07/16

STUDY RECORD

COC#

CLIENT NAME, ADDRESS, PHONE#:

INVOICE TO:

REPORT TO:

SPECIAL INSTRUCTIONS:

USS

PROJECT: T.B. Acute Tox. Test 11/15

Sample Name (Print)
T.Moe

PERMIT REQ.:

PROJECT NO:

SAMPLE COLLECTION DATE

SAMPLE COLLECTION TIME

Filter

GENERAL - NO PRES.

NUTRIENTS - H2SO4

METALS - HN03

40ML VIALS - HCL

1LT AMBER - HCL

500 ml - Zn Acetate

LOG-IN NO:

DESCRIPTION:

START DATE:

END DATE:

START TIME:

END TIME:

COMP

GRAB

LQ.

SOL.

CONTAINERS

ANALYSIS:

W5006/W5007

11/21/16

1025-1

0900-1

✓

✓

✓

✓

✓

1

1

AMINE

AMINE

AMINE

AMINE

AMINE

AMINE

AMINE

RECEIVED BY:

DATE:

TIME:

RECEIVED BY:

DATE:

TIME:

RECEIVED FROM PACE SAMPLE LOCK-UP:

DATE:

TIME:

RECEIVED FOR LAB BY:

DATE:

TIME:

DATE:

TIME:

DATE:

TIME:

DATE:

TIME:

RELINQUISHED BY:

DATE:

TIME:

RECEIVED BY:

DATE:

TIME:

RECEIVED FOR LAB BY:

DATE:

TIME:

RECEIVED FROM PACE SAMPLE LOCK-UP:

DATE:

TIME:

DATE:

TIME:

DATE:

TIME:

DATE:

TIME:

CUSTODY SEALS INTACT:

YES ☒ NO ☒

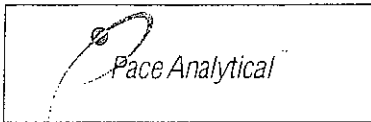
N/A

SAMPLES RECEIVED ON ICE:

YES ☒

NO ☐

SAMPLE TEMPERATURE: 1.9 °C

	Document Name:	Document Revised: 23Feb2015
	Sample Condition Upon Receipt Form	Page 1 of 1
	Document No.: F-VM-C-001-Rev.09	Issuing Authority: Pace Virginia, Minnesota Quality Office

Sample Condition
Upon Receipt

Client Name:

Project #:

WO#: 1279305

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client
☐ Commercial ☐ Pace ☐ Other:

Tracking Number:



Custody Seal on Cooler/Box Present? ☐ Yes ☒ No Seals Intact? ☐ Yes ☒ No Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other: Temp Blank? ☒ Yes ☐ No

Thermometer Used: ☒ 140792808 Type of Ice: ☒ Wet ☐ Blue ☐ None ☒ Samples on ice, cooling process has begun

Cooler Temp Read °C: 1.6 Cooler Temp Corrected °C: 1.9 Biological Tissue Frozen? ☐ Yes ☐ No ☒ NA
 Temp should be above freezing to 6°C Correction Factor: +0.3 Date and Initials of Person Examining Contents: CL 11-21-16

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. AMINES
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: WT		
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review:

Date: 11/21/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)